Methicillin-resistant Staphylococcus aureus (MRSA) has been a common nosocomial pathogen since the 1960s and has become a major problem in hospitals worldwide. In 2007, the European Antimicrobial Resistance Surveillance System, a free network that connects more than 600 laboratories in 31 European countries, reported an incidence of MRSA bloodstream infection (BSI) per 100,000 patient-days ranging from 0.2 in Sweden to 24.4 in Portugal [1]. A meta-analysis showed that BSIs due to MRSA are associated with almost two-fold higher mortality than those due to methicillin-susceptible S. aureus [2]. Costs were significantly higher for MRSA BSI than for methicillin-susceptible S. aureus BSI [3].

Therefore, patients and the public increasingly view rates of hospital-acquired MRSA as indicators of quality of patient care. Detection and eradication of MRSA are becoming public health priorities worldwide [4, 5]. There has been much debate about the evidence and cost-effectiveness of various infection control policies in controlling MRSA. A multidisciplinary approach should be employed in all settings, including hand hygiene programmes, active surveillance cultures, training of and feedback to healthcare workers, bundles for ventilator-associated pneumonia and central venous catheter-related infections, and environmental programmes [6, 7]. A second, even more essential, aspect of the management of MRSA is the treatment of serious infections, which must be prompt and efficacious in order to allow rapid microbiological clearance and successful management of the infection. It is also important to maintain appropriate and constant antibiotic serum concentrations [8–10]. Therapy for MRSA infections has to be decided individually, with consideration of the susceptibility patterns, source of the infection, presence of metastatic sites of infection, comorbidities, and history of patient allergies. A number of questions remain unsolved for the treatment of severe MRSA infections (BSI, endocarditis, osteomyelitis, and pneumonia). Although the glycopeptides still constitute the drugs of choice, there are several concerns about the treatment of MRSA infections: reports of clinical failure with vancomycin treatment regardless of in vitro susceptibility; increasing reports of strains with reduced vancomycin susceptibility; difficulty in therapeutic dosage monitoring; and lack of evidence on the efficacy of combination therapy. Moreover, in recent years, pharmaceutical companies have curtailed antibiotic production. Linezolid, daptomycin, and tigecycline are the only three really innovative drugs for the treatment of MRSA infections produced in the last 20 years.

At present, although the availability of linezolid, daptomycin and tigecycline has definitely improved options for the treatment of MRSA infections, the use of these antibacterials should be carefully monitored, to avoid the future spread of resistance. In addition, the therapeutic roles of the glycopeptides and the relevance of MICs need redefining. The selection of multidrug-resistant MRSA would have significant consequences at the individual level (i.e. increased risk of infection in a colonized patient) and at the institutional level (i.e. increased risk of cross-transmission among hospitalized patients, environmental contamination, and spread of resistance in the community). For the updating of existing guidelines, new trials are needed to compare these new drugs for the treatment of severe infections due to MRSA. Nevertheless, major efforts should be focused on improving specific guidelines for hospital antibiotic use and infection control measures to reduce the nosocomial spread of multidrug-resistant MRSA strains.

Interestingly, although specific guidelines for the management of MRSA infections have been published in many European countries, there is no common agreement, and treatment is still heterogeneous [11–13]. For certain clinical practices in the management of MRSA, e.g. the use of older drugs, combination therapy, intravenous–oral switch, and duration of treatment, clear evidence does not exist. Therefore, a large survey was proposed to canvass current opinions and practice in the management and treatment of MRSA infection among practitioners across Europe, concentrating on some of these controversial areas. An expert faculty developed a series of questions and gave their own
opinions anonymously on these topics. All registered delegates of the 19th European Conference of Clinical Microbiology and Infectious Diseases received a web-based questionnaire covering the same topics on 16 and 29 April 2009. The authors analysed answers from 381 European respondents, comparing them with the faculty’s responses. The questions were focused on various aspects of the practical treatment of MRSA infections, including prevention, clinical decision-making and empirical therapy, use of combination therapy, outpatient treatments, factors influencing the selection of antibiotics, and duration of therapy. Treatments for skin infection, BSI and pneumonia were specifically addressed. The survey, whose results follow in this supplement, shows considerable variation in opinion, from clear consensus in some areas to significant heterogeneity in others.

The survey has been useful in identifying areas where practice can be improved, e.g. in reducing the number of line-associated MRSA bacteraemias; in identifying where education may be valuable, e.g. in differentiating colonization from infection; and where further research would be helpful, e.g. in defining the role of older antibiotics. The survey may well help in the development of pan-European guidelines. The report provides insight into aspects of routine clinical management of MRSA infection that may need to be improved, and suggests areas to be covered by future epidemiological and clinical studies. Such publications of opinion and practice are useful for defining what is known about a subject, what is being done, and what needs to be done, and as such they can help inform scientists about the direction that their work should be taking.

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Transparency Declaration

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References